

Product Carbon Footprint

Compliant with Together for Sustainability (TfS) initiative Version 2.1 - February 2024,
ISO 14044:2006; ISO14044:2006, ISO 14067:2019

Product	MIRACOL 6274
Company	GYSO AG
Report ID	v1.0
Issue Date	06/2026

Client: IVK (Industrieverband Klebstoffe e.V.) & Afera (The European Tapes Association)

Title: TACK (Tapes and Adhesives Calculation Kit) – Module Adhesives

TACK version V1.0

Report version: v1.0

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2 - TACK: Goal and Concept

The European adhesive tape association "Afera" and the German adhesives association "IVK", in collaboration with Sphera, have developed a web-based, sector-wide tool for carbon footprint calculations of both adhesives and adhesive tapes. The tool is pre-customised to calculate to allow for the calculation of Product Carbon Footprints (PCFs) aligning with the requirements of the Together for Sustainability (TfS) guideline.

This toolkit is named TACK (Tapes and Adhesives Calculation Kit) with the main goal of quantifying and analysing cradle-to-gate ('partial') product carbon footprint (PCF) results of adhesives and adhesive tapes according to a common harmonized approach for PCF calculations and to report the PCF data aligning with the PCF Data Model requirements defined by the TfS initiative.

TACK is composed by two independent modules:

- Adhesives module
- Adhesive Tapes module

These modules are available as web-based PCF calculator tools, using the LCA Calculator software, underpinned by the complete model developed in the LCA FE (Life Cycle Assessment for Experts) software by Sphera, using the MLC (Managed Life-cycle Content) databases.

The intended use of the carbon footprint results is to inform the stakeholders and business partners about the impacts of the assessed products. The tool is oriented towards the requirements of the TfS (Together for Sustainability) initiative guidelines.

TACK has been through an external independent review process. The review certificate is available in section "Critical Review Certificate".

3 - TACK: TfS Data Model

Table 1 contains detailed information about the specifications of **MIRACOL 6274**, including all default and mandatory data requirements for a compliant PCF data exchange according to the TfS Guidelines for the Chemical Industry version 2.1 (for further information, please refer to [TfS PCF Data Model: How to report PCF data](#) and [The Product Carbon Footprint Guideline for the Chemical Industry, Version 2.1, TfS Initiative](#)).

Table 1: TfS Data Model summary, 1 kg of MIRACOL 6274

Field labels	Value
Scope of PCF form	
Data model and version	urn:fp:tfs-initiative.com: datamodel-version:2.0.0
Partial or a full PCF declaration	cradle-to-gate
Company and product information	
Company information	
Company name	GYSO AG
Company IDs	Ust/VAT/TVA-ID-Nr.: DE295930768
Product information	
Product name	MIRACOL 6274
Product information	
Declared unit (DU)	kilogram
Quantity (of declared unit)	1
Product mass [kg] per declared unit	1 kg
PCF assessment & methodology	
PCF assessment information	
ID & version	
PCF ID	MIRACOL 6274_PCF
Boundary Specification	
Cut-off rule	"0"
Technology	
Important unit processes and used technologies	
Geography	
Geography with region or subregion	Germany
Time	
Reference period start	01/2024

Reference period end	12/2024
Date of issue	05/2026
Validity period end	06/2031
PCF methodology	
Standards	
Cross-sectoral standards applied	ISO 14040-44; ISO 14067
Product or sector rules	TfS Guideline. V 2.1
GWP characterization factor details	
IPCC report version of GWP values	AR6
Data sources and quality	
Allocation in foreground (own processes)	
Allocation rules used	No allocation
Allocation approach used for waste incineration with energy recovery	System expansion
Data sources	
Primary Data Share (PDS)	0 %
Secondary data source and version	Sphera MLC, CUP 2024.2
Data quality	
Quantitative uncertainty	
Coverage of data quality assessment	92.3 %
Technological representativeness	0
Temporal representativeness	0
Geographical representativeness	0
Completeness	0
Reliability	0
General	
Comment	In the current assessment, the Product Carbon Footprint (PCF) is calculated using the default parameters of the TACK module for the inbound transportation category.
System boundary	
Packaging	"False"
Life cycle inventory results	
Production stage	
Production stage: GWP total (incl. bio.)	1.14 kg CO ₂ e/kg
Production stage: GWP total (excl. bio.)	1.14 kg CO ₂ e/kg
Production stage: GWP fossil	1.13 kg CO ₂ e/kg
Production stage: GWP biogenic CO ₂ e-emissions (only other GHG emissions than CO ₂ – excludes biogenic CO ₂)	0.0113 kg CO ₂ e/kg

Production stage: GWP biogenic CO ₂ -withdrawal (biogenic CO ₂ contained in the product)	0 kg CO ₂ e/kg
Production stage: GWP direct land use change (dLUC)	0.000908 kg CO ₂ e/kg
Production stage: GWP land use (LU)	0 kg CO ₂ e/kg
Production stage: GWP Aviation emissions	1.69E-007 kg CO ₂ e/kg
Amendment categories	
Packaging	
Packaging: GWP total (incl. bio.)	0 CO ₂ e/kg
Carbon content	
Total carbon content (per DU)	0 kg total C/ kg product
Fossil carbon content (per DU)	0 kg fossil C/ kg product
Biogenic carbon content (per DU)	0 kg biogenic C/ kg product

4 - Critical Review Certificate

Business Assurance Services


CERTIFICATE

CRITICAL REVIEW

DEKRA Assurance Service GmbH hereby confirms that a critical review has been carried out for the software tool '**TACK, v1.0**' developed by:

Sphera Solutions GmbH
Hauptstraße 111-113, 70771 Leinfelden-Echterdingen

It can be confirmed that the tool is generated in a professional manner and the accompanying documents are well-structured. The LCA tool can be considered as reliable and meets the defined goal and scope.

The audit is based on the following documents of the TACK-tool:

- Documentation: TACK: Documentation & User Manual, version 1.0, 30.04.2025
- MLC FE Software model Afera_IVK+TACK
- WebCalculator / i-report: TACK, version: 1.0

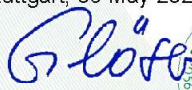
The following aspects were part of the critical review:

- the methods used to carry out the algorithms in the tool for calculating a Life Cycle Assessment (LCA) are consistent with the relevant International Standards ISO 14040 and ISO 14044 and the Standard 'Together for Sustainability' (TfS) v2.1, February 2024,
- the methods and inventory modelling applied in the tool to carry out the LCA are scientifically and technically valid,
- the data and model resulting from the tool calculation are appropriate and reasonable in relation to the goal of the study,
- the documentation referring to the calculation tool are transparent and consistent,
- the technical support in form of a manual and tool internal information for the user is unambiguously understandable and helps to avoid mistakes of the user.

Further details can be found in the critical review statement dated 5 May 2025 that provides a detailed overview of the critical review.

This certificate 990525119 is valid for software version and associated documents named above. DEKRA does not approve and is not responsible for numbers filled in by the customer. The verification of the specific LCI model generated by users of the tool is outside the scope of this critical review.

Stuttgart, 06 May 2025



DEKRA Assurance Services GmbH
Simona Gläser - Director



Certificate-ID: 990525119

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DEKRA Assurance Services GmbH
Peter Paul Ruschin - Head of Sustainability Services



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5 - Annex 1: Additional data to the TfS PCF Data Model

The following table provides additional data and results to the TfS PCF data model.

Table 2: Additional data to the TfS PCF data model, per kg of MIRACOL 6274

Field labels	Value
Carbon Footprint - Product only	
Product: GWP total (incl. bio.)	1.14 kg CO ₂ e/kg product
Product: GWP total (excl. bio.)	1.14 kg CO ₂ e/kg product
Product: GWP fossil	1.13 kg CO ₂ e/kg product
Product: GWP biogenic CO ₂ e-emissions (only other GHG emissions than CO ₂ – excludes biogenic CO ₂)	0.0113 kg CO ₂ e/kg product
Product: GWP biogenic CO ₂ -withdrawal (biogenic CO ₂ contained in the product)	0 kg CO ₂ e/kg product
Product: GWP direct land use change (dLUC)	0.000908 kg CO ₂ e/kg product
Product: GWP land use (LU)	0 kg CO ₂ e/kg product
Product: GWP Aviation emissions	1.69E-007 kg CO ₂ e/kg product
Carbon Footprint - Packaging only	
Packaging: GWP total (incl. bio.)	0 kg CO ₂ e/kg product
Packaging: GWP total (excl. bio.)	0 kg CO ₂ e/kg product
Packaging: GWP fossil	0 kg CO ₂ e/kg product
Packaging: GWP biogenic CO ₂ e-emissions (only other GHG emissions than CO ₂ – excludes biogenic CO ₂)	0 kg CO ₂ e/kg product
Packaging: GWP biogenic CO ₂ -withdrawal (biogenic CO ₂ contained in the product)	0 kg CO ₂ e/kg product
Packaging: GWP direct land use change (dLUC)	0 kg CO ₂ e/kg product
Packaging: GWP land use (LU)	0 kg CO ₂ e/kg product
Packaging: GWP Aviation emissions	0 kg CO ₂ e/kg product
Packaging information	
Packaging mass [kg] per declared unit	0 kg
Carbon content - Packaging	
Total carbon content (per DU)	0 kg total C/ kg packaging
Fossil carbon content (per DU)	0 kg fossil C/ kg packaging
Biogenic carbon content (per DU)	0 kg biogenic C/ kg packaging